# BRITISH COLUMBIA POPULATION FORECASTS AND ISSUES

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# PREFACE

"British Columbia Population Forecasts and Issues" was prepared by Dr. Patricia Ngan at the request of the British Columbia Round Table on the Environment and the Economy. It is part of a series of background reports dealing with issues which Round Table considered important to the development of a sustainable development strategy in British Columbia. It is intended to provide information that will assist the dialogue between the Round Table and the public.

The Round Table has not endorsed the report. The information provided and conclusions reached in this document are those of the author.

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## EXECUTIVE SUMMARY

### British Columbia Population Forecasts And Issues

This report focuses on anticipated population growth and its sources, changes in age structure, and some of the major issues that are likely to result.

The author indicates that British Columbia's population will increase from the current 3.1 million to 4.7 million by 2016 (following the October 1990 announcement of a revised Canadian policy on immigration, the provincial government has increased the projected population in 2016 to 4.9 million). Although our rate of growth will slow, this still represents an increase of more than 50% in the next 25 years.

The report notes that most of British Columbia's growth results from immigration from other provinces and from other countries, and most of the immigrants settle in Greater Vancouver.

Because natural population growth is slowing, the median age of the total population will increase from the current 34.5 to 41 years in 2016. The population on Vancouver Island and in the Lower Mainland will age faster than in other areas, and the Province's seniors population will more than double by 2016.

The author indicates that these population changes will increase pressures on the environment in large communities, and on the Thompson-Okanagan area in particular as it shifts to a more dense settlement pattern. At the same time, there will be opportunities to diversify regional economics.

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# BRITISH COLUMBIA POPULATION:
# FORECASTS AND ISSUES

## Introduction

### PURPOSE

This study examines the expected population growth in British Columbia over the next 20 to 25 years. The main issues selected for investigation are those most likely to influence economic growth, environmental impact, and regional disparity: rates of growth, changes in age structure, and sources of population growth. The study is based on a selection and interpretation of data and forecasts compiled by the Planning and Statistics Division of the BC Ministry of Finance and Corporate Relations.

### ISSUES

The following issues are investigated, and the implications of the findings are explored:

* ***Rates of growth***: How fast will the provincial population grow over the next 20 to 25 years? How will the growth rate vary among different age groups and different regions of the province?

* ***Changes in age structure***: What changes will occur in the relative sizes of age groups, and how will they affect the allocation of resources in society? The following age group/resource allocations are usually emphasized:
  - ages 5-17, 18-24: education
  - ages 25-34: household formation
  - ages 45-54: economic productivity of the experienced labour force
  - ages 65+: elderly health care
  - ages 80+: intensive health care.

* ***Sources of growth***: What factors contribute to population growth in BC? Natural increase (births minus deaths), interprovincial migration, and international migration are the three determinants of population growth. Data on migrants give clues to their potential influences on the economy and society of the province.

## Rates of growth

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The provincial population in 1990 is about 3.1 million. By 2016 it will have grown by more than half to 4.7 million. The increase would be a good deal greater if BC's current annual population growth rate of 2.5% were maintained. However, the annual growth rate is expected to fall steeply to 1.3% by 2011 and level off at 1.2% by 2016.

### REGIONS

The province is divided into eight Development Regions (DRs) as follows:

- DR1 -- Vancouver Island / Coast
- DR2 -- Mainland / Southwest
- DR3 -- Thompson-Okanagan
- DR4 -- Kootenay
- DR5 -- Cariboo
- DR6 -- North Coast
- DR7 -- Nechako
- DR8 -- Peace River.

These Development Regions are administrative units created to facilitate the delivery of government services. Because they divide the province exhaustively into geographic areas of some internal homogeneity, they suggest differences between the real communities within them. Hence they serve as convenient windows.

#### Distribution

The provincial population in 1990 is heavily concentrated in the southwestern corner:

* DRs 1 and 2 together contain nearly three-quarters of the total
* the third southern Region, DR3, has 11% of the total

* more than half the provincial population is contained in the two metropolitan areas in those Regions: Greater Vancouver 45%, Greater Victoria 9%.

The remaining 14% of the population is distributed among the other five Regions:

* the two central Regions, DRs 4 and 5, have 9% between them
* the three northern Regions, DRs 6 - 8, have 5% between them.

| Percentage of total population and forecast change | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | BC | DR1 | DR2 | DR3 | DR4 | DR5 | DR6 | DR7 | DR8 |
| 1990 | 100 | 18 | 56 | 11 | 4 | 5 | 2 | 1 | 2 |
| 2016 | 100 | 17 | 56 | 12 | 4 | 6 | 2 | 2 | 1 |
| Change | — | -1 | 0 | +1 | 0 | +1 | 0 | +1 | -1 |

In 2016 the distribution of population among the eight Development Regions will have scarcely changed from what it is in 1990:

* DRs 1 and 2 will still contain nearly three-quarters of the total.
* DR3 will have 12% of the total.

The remaining 15% of the population will continue to be distributed among the other five Regions in almost the same proportions as today:

* the two central Regions, DRs 4 and 5, will have 10% between them
* the three northern Regions, DRs 6 - 8, will have 5% between them.

The two large metropolitan areas, as currently defined, will not grow as quickly as the provincial average. By 2011, for example, the proportion of the total provincial population (in that year 4.4 million) contained by Greater Vancouver is forecast to fall from 45% to 39% and that of Greater Victoria from 9% to 8%. These highly urbanized areas will start to show signs of population "saturation". However, other areas of the province, such as suburbs outside but adjacent to the present metropolitan boundaries, are forecast to gain population rapidly. Overall, the proportion of the population living in urban centres will continue to grow.

Regional growth rates

Regional forecasts were available only up to 2011 at the time of this study. They show that there will be notable differences in annual growth rates between the Regions over a period in which the growth rate of the province as a whole is forecast to fall from 2.5% in 1990 to 1.3% in 2011.

* DR1 will remain little changed: it is currently growing more slowly (1.7%) than the provincial average in 1990 (2.5%) and will still be (1.1%) below average in 2011 (1.3%).
* DR2, which in 1990 is growing more quickly (2.6%) than the provincial average, will by 2011 have fallen below average as well (1%).
* DRs 3-8 over the forecast period all show increases in growth rates. DR3 (1.8% in 2011) and DR8 (1.4% in 2011) are the only Regions forecast to increase steadily throughout the period, whereas the growth rates of DRs 4-7 will fluctuate.

## IMPLICATIONS

Problems of population growth in urbanized areas

To what extent is further population growth desirable -- either in the province generally or in individual Regions? In BC the desirability of population growth depends mainly on the geographic location.

In highly urbanized areas such as Vancouver and Victoria, the local economy is sufficiently diversified to act as a stable basis for economic growth. Population growth in these areas is spontaneous. However, growing concentrations of population are placing increasing pressure on the environment in such realms as waste management, air and water quality, and land use. The merits of further population growth in places where the concentration is already high is being questioned with ever-greater frequency.

The need for population growth in sparsely settled areas

Unlike cities and towns in the southwest, smaller communities in the more sparsely settled Development Regions suffer from being too small to have diversified economies. The people living in these communities are more exposed to and affected by economic fluctuations in key local industries. Where the local industry happens to be in resource extraction – forest

products, mining – it is subject to fluctuations in international markets. Such a community does not have the critical mass to sustain itself through downturns. These economic difficulties outweigh questions of the environmental impact of such a community. In these locations, which are ubiquitous in the interior and northern Development Regions, population growth aimed at building a degree of economic self-sufficiency may be desired on all sides.

In the long term Regional population disparity is being accentuated by declining demand for natural resource labour and increasing demand for service sector labour, the latter concentrated in more densely populated areas. As a result, the populations of DRs 4-8 exhibit greater variability of their rates of growth through time, greater uncertainties of prediction, and, as will be seen shortly, a younger, more mobile population structure.

Amid a declining provincial growth rate, the Thompson-Okanagan Development Region (DR3) stands out as an interesting example of a Region in transition from sparsely settled and densely settled. Increasing debate over land use conflicts is affecting traditional attitudes favouring population growth.

## Changes in age structure

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Total

Year by year the provincial population will become older. In 1990 the Median Age (ie the age at which half the population is younger and half is older) is 34.5 years. By 2011 the Median Age will have risen to 40, and by 2016 to 41.

Selected age groups

The aging of a population reflects, broadly speaking, an increase in the numbers of people who are older and a decrease in the numbers who are younger:

***5-24***: The younger age groups will increase in size but decrease as a proportion of total population. Thus the education system may experience a reduction in its share of the provincial budget.

***25-34***: Until 2000 the young adult age group will remain the same size and thus will decline as a proportion on the total population. After 2000 it will grow at the same rate as the total population. The size of this group is often used to indicate the level of household formation in the province, with implications for the housing market and the construction industry.

***45-54***: By 2011 this age group will nearly double in size, and thereafter hold constant with a declining share as the general population continues to grow. Representing the experienced labour force, this group is associated with economic productivity.

***65+***: The seniors population will grow strongly throughout the forecast period, more than doubling in size from 409,000 in 1990 to 862,400 in 2016. Therefore this group will increase as a proportion of total population. A leading policy question concerns health care costs: seniors, who now represent 13% of the provincial population,

account for three-quarters of all health care expenditures. Health care currently accounts for one-third of the provincial budget.

*80+*: The concern for health care cost increases is intensified in the very old subgroup of seniors, whose numbers are forecast to more than triple from 83,000 in 1990 to 225,000 in 2016. This group at present accounts for half of all health care expenditures in BC.

The changing composition of the BC population in the next 25 years will have far broader effects than the few key ones just mentioned. For example, the enlargement of the seniors segment of the population may augment demand for certain kinds of services and amenities, such as tourism, retirement recreational activities, and condominiums, while it may slow the growth of demand for others, such as food, alcohol, fashion clothing, and sports equipment. In this manner predictions of significant demographic change always open many potential opportunities.

## REGIONS

Effects of regional disparity in BC can be examined in two ways: by comparing Median Ages and by comparing rates of aging.

### Median Ages

The Development Regions can be classed in three groups according to Median Age. These grouping will remain valid through the forecast period from 1990 to 2011.

* ***Older than average***: DR1 in 1990 has a Median Age 2.1 years above that of the province, owing mainly to a lower proportion aged 20-34 and a higher proportion aged 55+. By 2011 it will have a Median Age 3 years above that of the province, mainly because of a higher proportion aged 45+.

* ***About average***: The Median Ages in the other southern Regions, DRs 2-4, will not stray far from that of the province, remaining within two years of the latter throughout the forecast period.

* ***Much younger than average***: The interior and northern Regions, DRs5-8, have Median Ages in 1990 which are 5 to 7 years below that of the province, owing mainly to a higher proportion aged 0-20 and a lower proportion aged 50+. By 2011 their Median Ages will still be much lower -- 5 to 9 years -- than that of the Province.

| Median Ages, differences from province, and forecast increases | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Area | BC | DR1 | DR2 | DR3 | DR4 | DR5 | DR6 | DR7 | DR8 |
| 1990 | 34.5 | 36.6 | 34.7 | 36.0 | 35.1 | 29.7 | 27.4 | 28.0 | 29.5 |
| Gap | — | +2.1 | +0.2 | +1.5 | +0.6 | -4.8 | -7.1 | -6.5 | -5.0 |
| 2011 | 40.0 | 43.0 | 42.0 | 40.0 | 38.5 | 31.0 | 32.5 | 33.0 | 35.0 |
| Gap | — | +3.0 | +2.0 | 0 | -1.5 | -9.0 | -7.5 | -7.0 | -5.0 |
| Rise | 5.5 | 6.4 | 7.3 | 4.0 | 3.4 | 1.3 | 5.1 | 5.0 | 5.5 |

*Note: "Gap" denotes difference between Region and province. "Rise" denotes forecast increase.*

Relative rates of aging

Regional disparity can also be examined by comparing rates of aging — possibly a clearer indicator of the degree of stress caused by population change. Based on the amount of change to the Median Age from 1990 to 2011 (an increase of 5.5 years for the whole province), the Regions can be grouped as follows:

* ***Aging more slowly***: Three DRs will age much more slowly than the province: DR3: 4 years, DR4: 3.4 years, and DR5: 1.3 years. The difference between this measure and the previous one is seen in DR5, which shows the least change in Median Age although the Median Age itself is furthest from the provincial pattern: 9 years younger.

* ***Aging about average***: The three most northerly Regions, DR6: 5.1 years, DR7: 5 years, and DR8: 5.5 years, which appeared among the most extreme when Median Ages were compared, actually are the most moderate and similar to the provincial rate of aging.

* ***Aging much faster than average***: The two most southwesterly and populous Regions exhibit the overall aging trend at its most advanced: DR1: 6.4 years, and DR2: 7.3 years. DR2, which contains 56% of the population consistently throughout the forecast period and which therefore most resembles the provincial average, ages most quickly.

## Sources of growth

There are two sources of population growth: natural increase (births minus deaths) and migration (in-migration minus out-migration). For BC two kinds of migration flows may be distinguished: interprovincial and international. The forecasts therefore deal with three components of population growth in BC: natural increase, net interprovincial migration, and net international migration.

Their relative contributions to annual growth can be estimated. In 1990 it is as follows: natural increase 25%, interprovincial migration 50%, international migration 25%. By 2016 these shares are forecast to change: natural increase will fall to 19%, interprovincial migration will fall similarly to 44%, and international migration will increase substantially to 36%. Thus, from 1990 to 2016 the contribution of total migration to the growth of BC's population will rise from 75% to 80%.

### NATURAL INCREASE IN DECLINE

Natural increase (births minus deaths) can decline in one of four ways:

1 the birth rate drops while the death rate is unchanged
2 the death rate increases while the birth rate is unchanged
3 both rates drop, but the birth rate more so
4 both rates increase, but the death rate more so.

The forecast for BC is Case 3: both rates drop, but the birth rate more so.

Overall, the annual contribution of natural increase to population growth will fall from 19,400 in 1990 to 10,500 in 2016.

## INTERPROVINCIAL MIGRATION

Interprovincial migration to BC during the later 1980s has occurred in three almost equal streams: one-third from Ontario, one third from Alberta, and one-third from the rest of Canada. Little information is available about the backgrounds of these people, their expectations, or their contributions to the provincial economy.

Interprovincial migration is forecast to fall from 38,400 in 1990 to 24,300 in 2016, a drop of more than one-third. However, shorter-term forecasts indicate large fluctuations: first with a drastic drop by 1995 to 20,000, followed by a peak in 2004 of 28,400.

In general, migration of both kinds delays the aging of the provincial population because the migrant population is younger than the host population.

## INTERNATIONAL MIGRATION

International migration is not expected to fall like natural increase and interprovincial migration. Instead it will rise slightly and remain fairly level: in 1990 at 19,400, it should peak in 1996 at 23,200, then decline to 19,900 by 2000, and thenceforth remain constant until 2016.

*Forecasts of migration are less certain than those of natural increase because more assumptions must be made about relative economic activity, unemployment, and wage rates, as well as about political, social, and cultural factors.*

However, since total population growth will decline steeply, the firmness of international migration means that it will account for an increasing share of population growth: from 25% in 1990 rising to 36% in 2016.

*The migration forecasts analysed here preceded the policy announcement by the government of Canada in November 1990 stating that annual immigrant quotas would be substantially raised. This new policy would reinforce the trends discussed here by augmenting the forecast contribution of international migration to population growth.*

## PROFILE OF INTERNATIONAL IMMIGRANTS

Immigration data provide insights into the characteristics of international immigrants which are of a kind unavailable for interprovincial migration. The data, and the profile that emerges from them, are from the recent past and may be regarded as valid in 1990. Over the next 25 years no doubt the international immigration flow will change in many ways that are difficult to forecast because they depend on international economic conditions and policies.

### Age structure

International immigration (like interprovincial migration) delays the aging of the provincial population. The Median Age of international immigrants is about 5 years below that of the province. The main immigrant age groups are 20-35 and, to a lesser extent, 55-65.

### Source countries

During the last 20 years there have been important shifts in international immigration to BC. In 1968 44% of immigrants came from Europe, 22% from North and Central America, and 22% from Asia. By 1989 the pattern had been transformed: only 16% were from Europe and only 8% from North and Central America, but 66% now came from Asia. Among Asian sources in 1989, Hong Kong led with 30%, followed by India with 15%; as well there is an increase in immigration from South Korea and Malaysia.

Another view is the proportion of total immigrants to Canada landing in BC. (Entry through a province does not necessarily mean settlement in that province, but in these days of air travel options it usually does.) BC's share of total Canadian landings in 1989 was 13%, or about 25,000 people. Not surprisingly BC,s share was much higher for Pacific Rim sources: Oceania (the islands of the southwestern Pacific) 45%, Australasia 38%, Asia 18%. In particular, high proportions of Canadian immigrants from India (28%), Hong Kong (24%), and the United States (19%) landed in BC in the same year.

Immigrant categories

Canadian immigration rules divide immigrants into four categories: Family, Refugee, Economic, and Retired. In 1989 the international immigrants entering Canada in BC were divided as follows: Family 34%, Refugee 10%, Economic 50%, and Retired 6%. The relative proportions vary greatly by source country: in 1989 Hong Kong immigrants were 73% Economic and 13% Family, whereas Indian immigrants were 92% Family and only 8% Economic.

Again, immigrants arriving in BC can be seen as a proportion of the total arriving in Canada. In 1989 BC's share of Canadian Family and Economic immigrants in each case (14%) was about the same as its share of all Canadian immigrants (13%). Neither of these categories thus showed a preference for or against BC. However, BC received only half its share of Refugee immigrants (7%) but three times its share of Retired immigrants (39%). The preference for BC among retirees clearly extends abroad.

Within the Economic category, two classes of immigrants are particularly noteworthy for BC. This province attracts a high proportion of Entrepreneur Class arrivals. Since 1981, BC's share of this class has been 20-25% annually. In 1989 the share was 25%, approximately 3100 persons (including dependents).

BC also receives a high proportion of Investor Class immigrants. For example, in 1989 BC received 42% of them (905 arrivals), much more than Ontario (25%) or Quebec (26%).

Urban effects

For decades the Lower Mainland has been attracting an increasing proportion of BC immigrants. In 1950, approximately half the immigrants entering BC did so at Vancouver; in 1989 Greater Vancouver was receiving 80% (20,000 people). By contrast, in 1989 Greater Victoria received only 4% of BC immigrants (1000 people).

The two cities differ also in the origins of their immigrants. Greater Vancouver's sources are of course much like those of the province (of which it represents four-fifths), with Europe accounting for 14%, North and Central America 6%, Asia 70%. Greater Victoria's immigration (Europe 25%, North and Central America 18%, Asia 45%) resembles instead the national pattern.

The difference between Greater Vancouver and Greater Victoria appears also in the immigration rates (number of immigrants per 1000 host population). For example, in 1988 BC (7.6) attracted more immigrants for its size than Canada (6.2), with Greater Vancouver (12.5) attracting twice as many as Canada and Greater Victoria only about half as many (3.5).

## Conclusion

British Columbia's population will grow by half (from 3.1 million to 4.7 million) over the next 25 years, though during this period the annual rate of growth will steadily decline from 2.5% in 1990 to 1.2% in 2016. The population will also become older, with increasing proportions of seniors and decreasing proportions of younger age groups, so that the Median Age rises from 34.5 to 41.

The proportion of population growth due to natural increase will decline from about one-quarter in 1990 to about one-fifth in 2016. The proportion of growth due to total migration will rise in the same period from 75% to 80%.

The present disparity of geographic distribution of BC's population, with 85% of the population living in the south west (Development Regions 1-3). The tendency of older people to live in the populous southwest while the interior and northern regions have younger populations may even be modestly accentuated. The essential reasons for the persistence of these patterns is the continuing shift of employment from resource to service industries, of which the latter are more concentrated in areas of higher population density.

The most striking policy consequence of these changes will probably be the increase in health care costs because of the higher proportion of seniors. For example, the number of people aged 80 and over, who in 1990 accounted for half of provincial health care expenditures, is forecast to triple by 2016. The number of people aged 65 and over, who in 1990 accounted for three-quarters of provincial health care expenditures, is forecast to double over the same period. Health care costs already in 1990 amount to one-third of the provincial budget.

Many other consequences will flow from the shift upwards in population age in such areas as education, social services, housing, tourism, recreation, and entertainment. A prominent feature that may help compensate for increased health care costs will be the increase in the 45-54 age group, representing experienced and economically productive segments of the labour force.

Another compensating factor will be the growing importance of migration as a component of growth. Because the Median Age of migrants is lower than that of the provincial population, they slow tne aging of the latter as well as adding to the economically productive age groups.

## Data sources

PROVINCIAL FORECASTS: *British Columbia Population Forecast 1990-2016*. Planning and Statistics Division, Ministry of Finance and Corporate Relations, Province of British Columbia

REGIONAL DATA: *P.E.O.P.L.E. 15* Series, Planning and Statistics Division, Ministry of Finance and Corporate Relations, Province of British Columbia

AGE STRUCTURE: Current Profile -- 1986 graphs; Future Profile -- 2001 graphs: Planning and Statistics Division, Ministry of Finance and Corporate Relations, Province of British Columbia

ALL OTHER DATA: publications of the Planning and Statistics Division, Ministry of Finance and Corporate Relations, Province of British Columbia

Province of British Columbia

## DEVELOPMENT REGIONS

1 VANCOUVER ISLAND/COAST
2 LOWER MAINLAND/SOUTHWEST
3 OKANAGAN
4 KOOTENAY
5 CARIBOO
6 NORTH COAST
7 NECHAKO
8 PEACE RIVER